February 17, 1960

• Dr. Joshua Lederberg
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Stanford University
Stanford, California

Dear Josh:

Thank you for the strains you sent me some time ago, the Lac_2^- #4324 and the Gal_2^- Lac_{89}^- #4349. The former did not turn out to be glucose-permease negative as expected. As a matter of fact, it has also all three permeases, the galactose, Monod's, and MG's permease. Mutant #4349 was a lot more interesting because in it we were able to test for the first time the galactose-permease in the absence of β-galactosidase and other permeases. It called to my attention the fact that so far all Gal_2^- strains we have tested have been MG-permease negative. and It could be that the MG-permease is closely associated with galactokinase, if not galactokinase itself. Gal_8^- (#3108), another galactokinase-negative was also MG-permease negative. A revertant of #4349, in which ability to utilize galactose was restored, did not have the MG-permease. This could be considered a strike against the hypothesis although I have to test yet this reverted mutant after galactose-induction.

I have read in Kurahashi's paper that you have another strain which is galactokinase negative, W-3142, which is not linked to the other Gal loci. I would appreciate it very much if you could send me this strain to test it for MG-permease and see if it fits the picture.

Rather than telling you about my other results I will send you soon a manuscript on the specificity and relationship of all the galactose and galactoside permeases known at this time.

With best regards to Esther and you,

Yours,

Boris

Boris Rotman

P.S. Your hypothesis about galactose being a constitutive inducer of the permease seem less likely at this point. Mutant #3099 which, according to Kalckar, does not make internal galactose from glucose does have a galactose-permease.